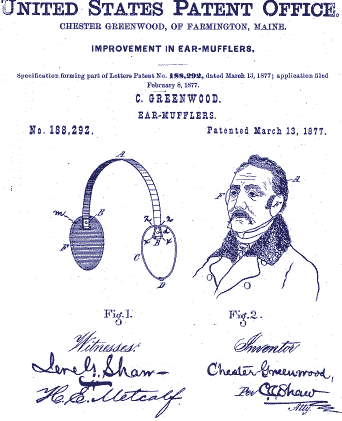
Earmuffs, an Outstanding Invention

It all began with Chester Greenwood’s ears, which got very cold in the winter. He grew up in Farmington, Maine, where the winters were long and harsh. There was a legend that Chester’s ears turned weird colors in the cold, but his grandson disputes this. He declares that his grandfather’s ears were just big and cold. So, what did young Chester do about his cold ears? At the age of 15, he created earmuffs, an invention that would support him for the rest of his life.

Chester was one of six children in a poor farm family. A resourceful boy, he always did his part to help bring in money. He would walk eight miles going from house to house to sell the eggs laid by the family’s hens. Sometimes he would also sell fudge or other candies that he made by himself. It was rare that Chester took time out from work to relax and have fun. But, one cold winter day in 1873, Chester was eager to try out a new pair of ice skates. It was on that day that an idea was born.

While Chester was skating at nearby Abbot Pond, his body was covered with warm clothing, socks, boots, gloves, and a hat. However, his sensitive ears were exposed to the cold. The icy wind soon sent the boy racing home. The next day, Chester tried tying a heavy wool scarf around his head. The scarf kept his ears warm, but the wool made them itch so fiercely that he was forced to return home once again.

Not easily discouraged, the boy decided to make something to shield his ears. To do this, he got his grandmother to help. Chester provided the idea and the material, and his grandmother supplied her sewing skill. The idea was simple. He made two ear-shaped loops from wire. Then, his grandmother sewed fur on the outside of the loops and black velvet on the side against the ear. Before long, he was wearing what he called the “Ear Protector.” They were comfortable and easy to wear. With his new earmuffs, Chester’s ears were finally warm.

All of Chester’s friends loved the earmuffs. Word soon spread. Before long, children all over the community were asking their parents and grandparents to make them earmuffs. Although his friends were enthusiastic, Chester was not satisfied with his Ear Protector. He thought that the ears flapped too much. Like many great inventions, it just needed a little bit of work.

Chester decided to try using a flat steel band to replace the wire. The new band allowed him to attach a tiny hinge to each ear flap so the muff could fit snugly against the ear. And, the new band had another advantage. Because it was made of springy steel, he could twist it flat and stuff the muffs in his pocket when he was done with them.



The new improved muffs were a big hit. Now everyone, not just children, wanted them. When he was eighteen, Chester opened a factory to make his Ear Protectors. Later, he expanded to a bigger building. At that time, he had twenty people working for him. The business kept on growing. By 1936, his factory was turning out more than 400,000 muffs a year! The product made Chester a very rich man.

1. Why did the author MOST LIKELY write the article, “Earmuffs, An Outstanding Invention”?
2. to give ideas about creating new products
3. to show the process of producing an invention
4. to encourage readers to stay out of the cold weather
5. to explain how a simple idea became a widely used item
6. The author MOST LIKELY feels Chester’s earmuff invention was
7. popular and successful.
8. only useful to ice skaters.
9. made out of cheap materials.
10. too expensive for children to afford.
11. With which statement would the author MOST LIKELY agree?
12. Earmuffs are not comfortable or easy to wear.
13. Giving up is allowed if your product is not working.
14. More items should be invented to keep people warm.
15. Children are able to create and produce great inventions.
16. The author MOST LIKELY believes Chester Greenwood
17. had big ears that stuck out too much.
18. worked hard as a child to help his family earn money.
19. was lazy because he needed his grandmother to help him.
20. should have waited until he was older to open his own factory.
21. Why did the author include information about changes to the original design of earmuffs?
22. to describe how an invention becomes famous
23. to list the steps needed to create and sell an invention
24. to explain that inventions should only be fixed if other people suggest it
25. to express that sometimes inventions need improvements to make them better
26. Which pair of words from the article has almost the SAME meaning?
27. long, harsh
28. created, stuff
29. provided, supplied
30. comfortable, covered
31. What happens AFTER Chester went skating at Abbot Pond but BEFORE Chester had the idea for earmuffs?
32. Chester hires twenty people to work for him.
33. Chester asks his grandmother to help him sew.
34. Chester opens a factory to produce his new invention.
35. Chester tries tying a heavy wool scarf around his head.
36. Chester decided to use a flat steel band to replace the wire because
37. the wool was too itchy.
38. he wanted to become a rich man.
39. he thought his ears flapped too much.
40. children in the community were asking for it.
41. Why did the author include both illustrations in this passage?
42. to suggest that the earmuff design has stayed the same over the years
43. to prove that earmuffs today are different than the ones in the past
44. to show why earmuffs are necessary to wear in cold weather
45. to demonstrate how earmuffs work
46. Which word BEST describes Chester?
47. artistic
48. cautious
49. determined
50. famous

Answer Key:

1. Correct Answer D, DOK 2
2. Correct Answer A, DOK 2
3. Correct Answer D, DOK 3
4. Correct Answer B, DOK 3
5. Correct Answer D, DOK 3
6. Correct Answer C, DOK 2
7. Correct Answer D, DOK 2
8. Correct Answer C, DOK 1
9. Correct Answer A, DOK 2
10. Correct Answer C, DOK 2